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## CLAIMS

**WHAT IS CLAIMED IS:**

1. An immunoglobulin molecule that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

2. An immunoglobulin molecule according to Claim 1 wherein the immunoglobulin molecule is selected from the group consisting of a single chain antibody, a diabody, a triabody or an antibody.

3. A single chain antibody that neutralizes activation of *KDR*, wherein the single chain antibody comprises at least one variable heavy-chain fragment comprising:

CDRH1, having the amino acid sequence shown in SEQ. ID. NO. 1;

CDRH2, having the amino acid sequence shown in SEQ. ID. NO. 2; and

CDRH3, having the amino acid sequence shown in SEQ. ID. NO. 3;

and at least one variable light-chain fragment comprising:

CDRL1, having the amino acid sequence shown in SEQ. ID. NO. 4;

CDRL2, having the amino acid sequence shown in SEQ. ID. NO. 5; and

CDRL3, having the amino acid sequence shown in SEQ. ID. NO. 6.

4. A single chain antibody that neutralizes activation of *KDR*, wherein the single chain antibody comprises:

at least one variable heavy-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 7; and

at least one variable light-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 8.

5. A nucleic acid molecule that encodes the single chain antibody of Claim 3.

6. The nucleic acid molecule of Claim 5 which consists of:

the nucleic acid sequence that encodes CDRH1 shown in SEQ. ID. NO. 9;

the nucleic acid sequence that encodes CDRH2 shown in SEQ. ID. NO. 10;

the nucleic acid sequence that encodes CDRH3 shown in SEQ. ID. NO. 11;

the nucleic acid sequence that encodes CDRL1 shown in SEQ. ID. NO. 12;

the nucleic acid sequence that encodes CDRL2 shown in SEQ. ID. NO. 13; and

the nucleic acid sequence that encodes CDRL3 shown in SEQ. ID. NO. 14.

7. A nucleic acid molecule that encodes the single chain antibody of Claim 4.

8. The nucleic acid molecule of Claim 7 which consists of:

the nucleic acid sequence that encodes variable heavy-chain fragment shown in SEQ. ID. NO. 15; and

the nucleic acid sequence that encodes variable light-chain fragment shown in SEQ. ID. NO. 16.

9. The single chain antibody of Claim 3 wherein the variable heavy-chain fragment and the variable light-chain fragment are covalently linked by at least one peptide linker.

10. The single chain antibody of Claim 9 wherein the peptide linker comprises at least 15 amino acids.

11. The single chain antibody of Claim 9 wherein the peptide linker comprises the amino acid sequence shown in SEQ. ID. NO. 17.

12. A nucleic acid molecule that encodes the peptide linker of Claim 11.

13. The nucleic acid molecule of Claim 12 which consists of the nucleic acid sequence that encodes the peptide linker shown in SEQ. ID. NO. 18.

14. A diabody that neutralizes activation of *KDR*, wherein the diabody comprises at least one variable heavy-chain fragment comprising:

CDRH1, having the amino acid sequence shown in SEQ. ID. NO. 1;

CDRH2, having the amino acid sequence shown in SEQ. ID. NO. 2; and

CDRH3, having the amino acid sequence shown in SEQ. ID. NO. 3;

and at least one variable light-chain fragment comprising:

CDRL1, having the amino acid sequence shown in SEQ. ID. NO. 4;

CDRL2, having the amino acid sequence shown in SEQ. ID. NO. 5; and

CDRL3, having the amino acid sequence shown in SEQ. ID. NO. 6.

15. A diabody that neutralizes activation of *KDR*, wherein the diabody comprises:

a variable heavy-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 7; and

a variable light-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 8.

16. A nucleic acid molecule that encodes the diabody of Claim 14.

17. The nucleic acid molecule of Claim 16 which consists of:

the nucleic acid sequence that encodes CDRH1 shown in SEQ. ID. NO. 9;

the nucleic acid sequence that encodes CDRH2 shown in SEQ. ID. NO. 10;

the nucleic acid sequence that encodes CDRH3 shown in SEQ. ID. NO. 11;

the nucleic acid sequence that encodes CDRL1 shown in SEQ. ID. NO. 12;

the nucleic acid sequence that encodes CDRL2 shown in SEQ. ID. NO. 13; and

the nucleic acid sequence that encodes CDRL3 shown in SEQ. ID. NO. 14.

18. A nucleic acid molecule that encodes the diabody of Claim 15.

19. The nucleic acid molecule of Claim 18 which consists of:

the nucleic acid sequence that encodes variable heavy-chain fragment shown in SEQ. ID. NO. 15; and

the nucleic acid sequence that encodes variable light-chain fragment shown in SEQ. ID. NO. 16.

20. The diabody of Claim 14 wherein the variable heavy-chain fragment and the variable light-chain fragment are covalently linked by at least one peptide linker.

21. The diabody of Claim 20 wherein the peptide linker comprises at least 5 amino acids and no more than 10 amino acids.

22. The diabody Claim 21 wherein the peptide linker comprises the amino acid sequence shown in SEQ. ID. NO. 19.

23. A nucleic acid molecule that encodes the peptide linker of Claim 22.

24. The nucleic acid molecule of Claim 23 which consists of the nucleic acid sequence that encodes for the peptide linker shown in SEQ. ID. NO. 20.

25. The diabody of Claim 14, wherein said diabody is monospecific.

26. The diabody of Claim 14, wherein said diabody is bispecific and wherein the diabody binds to at least one epitope on *KDR*.

27. A triabody that neutralizes activation of *KDR*, wherein the triabody comprises at least one variable heavy-chain fragment comprising:

CDRH1, having the amino acid sequence shown in SEQ. ID. NO. 1;

CDRH2, having the amino acid sequence shown in SEQ. ID. NO. 2; and

CDRH3, having the amino acid sequence shown in SEQ. ID. NO. 3;

and at least one variable light-chain fragment comprising:

CDRL1, having the amino acid sequence shown in SEQ. ID. NO. 4;

CDRL2, having the amino acid sequence shown in SEQ. ID. NO. 5; and

CDRL3, having the amino acid sequence shown in SEQ. ID. NO. 6.

28. A triabody that neutralizes activation of *KDR*, wherein the triabody comprises at least one variable heavy-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 7; and

at least one variable light-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 8.

29. A nucleic acid molecule that encodes the triabody of Claim 27.

30. The nucleic acid molecule of Claim 29 which consists of:

the nucleic acid sequence that encodes CDRH1 shown in SEQ. ID. NO. 9;

the nucleic acid sequence that encodes CDRH2 shown in SEQ. ID. NO. 10;

the nucleic acid sequence that encodes CDRH3 shown in SEQ. ID. NO. 11;

the nucleic acid sequence that encodes CDRL1shown in SEQ. ID. NO. 12;

the nucleic acid sequence that encodes CDRL2 shown in SEQ. ID. NO. 13; and

the nucleic acid sequence that encodes CDRL3 shown in SEQ. ID. NO. 14.

31. A nucleic acid molecule that encodes the triabody of Claim 28.

32. The nucleic acid molecule of Claim 31 which consists of:

the nucleic acid sequence that encodes variable heavy-chain fragment shown in SEQ. ID. NO. 15; and

the nucleic acid sequence that encodes variable light-chain fragment shown in SEQ. ID. NO. 16.

33. The triabody of Claim 27, wherein said triabody is monospecific.

34. The triabody of Claim 27, wherein said triabody is bispecific and wherein the triabody binds to at least one epitope on *KDR*.

35. The triabody of Claim 27, wherein said triabody is trispecific and wherein the triabody binds to at least one epitope on *KDR*.

36. An antibody that neutralizes activation of *KDR*, wherein the antibody comprises at least one variable heavy-chain fragment comprising:

CDRH1, having the amino acid sequence shown in SEQ. ID. NO. 1;

CDRH2, having the amino acid sequence shown in SEQ. ID. NO. 2; and

CDRH3, having the amino acid sequence shown in SEQ. ID. NO. 3;

and at least one variable light-chain fragments comprising:

CDRL1, having the amino acid sequence shown in SEQ. ID. NO. 4;

CDRL2, having the amino acid sequence shown in SEQ. ID. NO. 5; and

CDRL3, having the amino acid sequence shown in SEQ. ID. NO. 6.

37. An antibody that neutralizes activation of *KDR* wherein the antibody comprises:

a variable heavy-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 7; and

a variable light-chain fragment having the amino acid sequence shown in SEQ. ID. NO. 8.

38. A nucleic acid molecule that encodes an antibody that neutralizes activation of *KDR* which comprises:

the nucleic acid sequence that encodes CDRH1 shown in SEQ. ID. NO. 9;

the nucleic acid sequence that encodes CDRH2 shown in SEQ. ID. NO. 10;

the nucleic acid sequence that encodes CDRH3 shown in SEQ. ID. NO. 11;

the nucleic acid sequence that encodes CDRL1 shown in SEQ. ID. NO. 12;

the nucleic acid sequence that encodes CDRL2 shown in SEQ. ID. NO. 13; and

the nucleic acid sequence that encodes CDRL3 shown in SEQ. ID. NO. 14.

39. A nucleic acid molecule that encodes an antibody that neutralizes activation of *KDR* which comprises:

the nucleic acid sequence that encodes the variable heavy-chain fragment shown in SEQ. ID. NO. 15; and

the nucleic acid sequence that encodes the variable light-chain fragment shown in SEQ. ID. NO. 16.

40. A chimerized antibody comprising the antibody of Claim 36.

41. A humanized antibody comprising the antibody of Claim 36.

42. A method of making immunoglobulin molecules that bind *KDR* with an affinity comparable to human VEGF, and that neutralize activation of *KDR* comprising:

inserting a nucleic acid sequence that encodes the immunoglobulin molecule into a host cell,

and expressing that nucleic acid sequence.

43. A method of neutralizing the activation of *KDR* comprising:

administering to a mammal an effective amount of an immunoglobulin molecule that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

44. A method of reducing tumor growth comprising:

administering to a mammal an effective amount of an immunoglobulin molecule that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

45. A method of inhibiting angiogenesis comprising:

administering to a mammal an effective amount of an immunoglobulin molecule that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

46. A method of making single chain antibodies that bind *KDR* with an affinity comparable to human VEGF and that neutralize activation of *KDR* comprising:

inserting a nucleic acid sequence that encodes the single chain antibody into a host cell,

and expressing that nucleic acid sequence.

47. A method of neutralizing the activation of *KDR* comprising:

administering to a mammal an effective amount of a single chain antibody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

48. A method of reducing tumor growth comprising:

administering to a mammal an effective amount of a single chain antibody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

49. A method of inhibiting angiogenesis comprising:

administering to a mammal an effective amount of a single chain antibody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

50. A method of making diabodies that bind *KDR* with an affinity comparable to human VEGF and that neutralize activation of *KDR* comprising:

inserting a nucleic acid sequence that encodes the diabody into a host cell,

and expressing that nucleic acid sequence.

51. A method of neutralizing the activation of *KDR* comprising:

administering to a mammal an effective amount of a diabody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

52. A method of reducing tumor growth comprising:

administering to a mammal an effective amount of a diabody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

53. A method of inhibiting angiogenesis comprising:

administering to a mammal an effective amount of a diabody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

54. A method of making triabodies that bind *KDR* with an affinity comparable to human VEGF and that neutralize activation of *KDR* comprising:

inserting a nucleic acid sequence that encodes the triabody into a host cell,

and expressing that nucleic acid sequence.

55. A method of neutralizing the activation of *KDR* comprising:

administering to a mammal an effective amount of a triabody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

56. A method of reducing tumor growth comprising:

administering to a mammal an effective amount of a triabody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

57. A method of inhibiting angiogenesis comprising:

administering to a mammal an effective amount of a triabody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

58. A method of making antibodies that bind *KDR* with an affinity comparable to human VEGF and that neutralize activation of *KDR* comprising:

inserting a nucleic acid sequence that encodes the antibody into a host cell,

and expressing that nucleic acid sequence.

59. A method of neutralizing the activation of *KDR* comprising:

administering to a mammal an effective amount of an antibody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

60. A method of reducing tumor growth comprising:

administering to a mammal an effective amount of an antibody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.

61. A method of inhibiting angiogenesis comprising:

administering to a mammal an effective amount of an antibody that binds *KDR* with an affinity comparable to human VEGF, and that neutralizes activation of *KDR*.